WELLINGTON E. WEBB
Mayor

# CITY AND COUNTY OF DENVER

**DEPARTMENT OF ENVIRONMENTAL HEALTH**
Robert G. Conrad, Acting Manager

1391 SPEER BOULEVARD
SUITE 700
DENVER, CO 80204-2555
PHONE: (720) 865-5365
FAX: (720) 865-5531
www.denvergov.org/deh



May 9, 2002

Max M. Howie, Jr.
Chief
Program Evaluation, Records, and Information Services Branch
Agency for Toxic Substances and Disease Registry
Mailstop E-56
1600 Clifton Road NE
Atlanta, GA 30333

RE: Public Health Assessment for the Vasquez Boulevard and I-70 Site
March 5, 2002, Public Comment Release

Dear Mr. Howie:

Thank you for the opportunity to review the Public Health Assessment (PHA) Public Comment Release dated March 5, 2002, for the Vasquez Boulevard and I-70 Site. On February 6, 2002 we provided comments to ATSDR on a previous draft of the PHA. In large part, our comments on the current draft repeat those expressed in our February 6th letter, that we feel were not adequately addressed by ATSDR. We appreciate ATSDR's consideration of our previous comments and the incorporation of many of them into this draft of the PHA. We have the following comments:

**General:**
While many of the comments below are directed at the text in the summary of the document (pages iii – vi), they also apply to the body of the document that is the source of text for the summary.

A. Given the length of the document and its intended audience (the general public), we believe it is important that the summary of the PHA be concise and focused on ATSDR's "take-home message". This is especially important since it is likely that most readers will read only the summary and, at most, skim portions of the rest of the document. After reading the summary, the reader should come away with a clear understanding of ATSDR's assessment of public health concerns for the site, and its recommendations for further action. It is our opinion that the summary does not

clearly convey ATSDR's concerns, in a manner readily accessible to the general public.

A member of the public reading this document might legitimately ask, "Does ATSDR believe that the levels of arsenic in my yard are of concern?" "Does ATSDR believe that the cleanup recommended by EPA will protect my health?" The document does not answer these questions. For example, after reading the summary, we understand that ATSDR is concerned about pica behavior in children at the site. For the pica scenario, ATSDR states they are concerned about soil arsenic levels at 650 sampled properties, but does not provide the soil arsenic value that is basis for this statement. A member of the public might ask "Which 650 properties?"

B. There are a number of locations in the report where ATSDR cites EPA's risk assessment calculations, and presents information on the number of homes at which EPA would recommend cleanup. It is not clear if ATSDR supports these recommendations, and if not, what alternate recommendations are proposed by ATSDR. For example, ATSDR reports EPA's soil arsenic pica value of 47 ppm, but does not explicitly state if they agree or disagree with that value. For the benefit of a reader from the community, the document should clearly state if ATSDR agrees or disagrees with EPA's assessment. If ATSDR disagrees, the PHA should provide the reader with alternate soil levels of concern, and the basis for these concerns, so the reader can adequately judge health risks for their family.

   Similar comments apply to ATSDR's discussion of long-term health effects for arsenic (i.e., cancer) and findings for lead. ATSDR mentions EPA's assessments for numbers of properties with a concern for long-term exposure to arsenic, but does not state whether or not ATSDR is in agreement with EPA's assessment. Also, ATSDR mentions EPA's range of soil values of concern for lead, but does not take a position on whether it agrees or disagrees with any part of the range of EPA values. If the document presents EPA's levels of concern, they should be presented in a fashion so the reader can understand whether or not ATSDR is in agreement with the values. The reader should be left with a clear message of ATSDR's concern for exposures to soil, at their property. If the document presents numbers of properties at which ATSDR has concern, it should also present the soil concentration from which the number was derived, such that an individual can verify whether ATSDR has concern regarding a specific property.

   In numerous meetings with the community (e.g., Health Team meetings, Working Group meetings), ATSDR has raised issues around EPA's calculations for levels of health concern for arsenic and lead. After raising these issues in the community, it is incumbent on ATSDR to clearly express their findings, so the reader can reconcile ATSDR's previously expressed differences with EPA, and come to meaningful conclusions regarding ATSDR's public health concerns for the site.

C. ATSDR presents several levels of concern in the body of the document (270 ppm arsenic in soil, for noncancer effects from weekly exposure, page 41; and 300 ppm arsenic in soil, cancer from long-term exposure, page 42) but provides very little or no basis for the values. ATSDR should provide explicit supporting documentation

for values such as these presented in the text, so the reader can understand and verify calculations.

**Specific:**

1. Page iii. Summary (last paragraph), and global (e.g., page 59). The text states "*ATSDR has determined that soil arsenic levels at many but not all of the properties in the VBI70 study area are safe regardless of how much soil a child or an adult might ingest*" (emphasis added). We suggest that ATSDR qualify this statement with the addition of some text indicating this statement is true "...for individuals with typical soil exposures" or "...within the limits of the evaluation performed in the PHA." While we agree with the sentiment, in general, it does not seem appropriate or accurate to make a statement that a substance is safe, "*...regardless of the amount of exposure*".

2. Page iv. (second paragraph). The text states "*The EPA has identified about 260 properties where the increased risk of cancer is unacceptable.*" It is our understanding that EPA's Baseline Risk Assessment (BRA) identified approximately 113 properties with an unacceptable cancer risk estimate (i.e., arsenic exposure point concentration (EPC) > 240 mg/kg) (MFG 2001). Please verify with EPA and correct the text as appropriate (see related comment below).

3. Page vi. (top of page). "*DEH's program is managed by Mr. Gene 720-865-5452.....*". Please correct the typographical error by adding the word "Hook" in place of the telephone number.

4. Page 4. Actions to reduce exposure (2nd paragraph). The text states "*...EPA has proposed 128 ppm as an preliminary action level for arsenic. About 260 properties in the VBI70 study area exceed this action level. These 260 or so properties have a composite soil sample with arsenic levels greater than 128 ppm. EPA is targeting these approximately 260 properties to protect residents from the risk of cancer.* (emphasis added)" Several comments on the PHA text follow: 1) As of this date, EPA has not released it's proposed plan for the VB-I70 area, and 128 ppm is one of several preliminary action levels established for arsenic in soil (MFG 2001). After the release of EPA's Proposed Plan (anticipated date, May 20) the PHA text should reflect EPA's selection of a preferred alternative. 2) The text is slightly disingenuous in that it implies that an arsenic soil level of 128 mg/kg corresponds to EPA's Remedial Action Objective (RAO) of 1×10E-4 for excess lifetime cancer risk. This is not the case, as the Baseline Human Health Risk Assessment (EPA 2001) predicts that an exposure point concentration (EPC) of 240 mg/kg arsenic in soil is the level at which lifetime cancer risks exceed the RAO of 1×10E-4 (, MFG 2001). The value of 128 mg/kg was developed based on other criteria, including the consideration of a more protective risk level because of comparison with the adjacent Globeville cleanup site. Please clarify these facts in the text.

5. Page 7. Colorado Department of Public Health and Environment (second sentence). The sentence is missing a verb. We believe it was meant to read "*The*

*samples* were *analyzed in a lab for levels of inorganic elements, such as, arsenic, cadmium, and lead.*" Please correct.

6. Page 11. Text for Graph 1, re: estimation of maximum from yard average. While the PHA mentions there is "*some uncertainty*" in the linear regression approach, (as there is in any statistical approach) the PHA does not acknowledge that the linear regression relies on data from only eight properties and ATSDR assumes that the arsenic distribution pattern from those eight properties applies to the entire 3,900 other properties in the site. The text should acknowledge the limitations of the small sample size (n=8) in the linear regression approach. Also, the text might note that EPA has estimated the maximum level in a residential yard (EPA 2001) using an approach different than that described in the PHA.

7. Page 17. Air Data (last paragraph). The first sentence of the paragraph reads "*Technically, the 1-hour standard for ozone has not applied to the Denver metropolitan area since May 1998*"; this sentence is incorrect. In 1997, when the EPA initially set the 8-hour ozone standard, it revoked the 1-hour standard. However, while the legality of the standards was being resolved in court, the 1-hour ozone standard was reinstated. Please correct or delete the sentence. If you wish more information on this subject, please contact our office and I'll direct you to appropriate staff.

8. Page 17. Air Data (last paragraph, continued). We believe there is a typographical error, because the last paragraph in the section ends in the same wording as the preceding paragraph. We suggest the text of the last paragraph should say "*... that Denver currently meets EPA's Ambient Air Quality Standard for* ozone." Please correct as appropriate.

9. Page 22 and 23. Sediments and Surface Water.. It is our understanding that there are more sediment and surface water data available for the VB/I70 area than are discussed in the PHA. Please review EnviroGroup (2001) for a discussion of available data, or contact our office and we will refer you to the appropriate DEH contact.

10. Page 24. Breathing outdoor and indoor air. It is our understanding that the Colorado Department of Transportation (CDOT) has air monitoring data for several parameters, including arsenic and lead, from a site(s) near the area. Please consider an evaluation of the CDOT data for its appropriateness as an indication of air quality for the site.

11. Page 24. Breathing outdoor and indoor air (continued). ATSDR implies that arsenic and lead could be present in indoor air due to contaminant evaporation from contaminated soils in crawlspaces, and that indoor air sampling data would be necessary in order to "*...determine whether this type of exposure is actually occurring in the VBI70 study area.*" We suggest that, if ATSDR believes this to be a potential exposure pathway, then ATSDR conduct screening calculations regarding the concentrations necessary for this to pathway to be of concern. It is

our assumption that this pathway is extremely unlikely to be completed, given the extremely low evaporation rate of inorganic arsenic and lead compounds from soil. If ATSDR intended to express a different concern in the referenced paragraph, then we suggest ATSDR clarify its meaning.

12. Page 41. Weekly exposure (continued). The text states "*ATSDR considers average arsenic levels greater than about 270 ppm to be a concern*". Please provide the basis for the 270 ppm value, including the assumptions used in the calculations (e.g., in a footnote or refer the reader to another section of the PHA). The document should be explicit in providing details, so that the reader can understand and verify calculations.

13. Page 43. The possibility of cancer (2nd paragraph). The document provides a soil concentration of 300 ppm arsenic, as a level comparable to doses "*reported in the literature*" associated with increased risk of cancer. As above, please briefly provide the basis for this statement. That is, please reference the literature— sources for this statement or refer the reader to another document that summarizes the literature sources (e.g., ATSDR Toxicological Profile, etc.).

14. Page 47 and 48. Possible health effects from exposures to lead (bottom of page and middle of next page). Regarding the statement that "CDPHE has a state-wide blood lead program that tests children for blood lead." It is our understanding that CDPHE does not have an ongoing state-wide program of blood lead testing. Rather, CDPHE does, on occasion, perform limited and targeted blood lead testing events, often through cooperative funding agreements with other organizations. The State does not have funding to perform ongoing blood lead testing for the VB/I70 study area, or other parts of the state. The State has an ongoing surveillance program that tracks reported cases of children with elevated blood lead, usually identified by other health care providers, and reports them to CDC. Also, the State assists local agencies in their education, outreach, and elevated blood lead case investigation efforts. We suggest ATSDR verify the scope of CDPHE's lead program with CDPHE's lead program manager and incorporate the information globally, as appropriate.

15. Page 62. The distribution of arsenic and lead (last sentence). Typographical error. We believe ATSDR meant to say "that" instead of "at".

16. Page 65. Medical testing. Regarding the recent CDPHE testing and the statement that "CDPHE did not find a relationship between blood lead results and lead levels in soil but too few children were tested to conclude whether or not soil lead levels are contributing to blood lead levels". The text would benefit from a brief discussion of the CDPHE blood data presented in EPA (2001) acknowledging that additional data are available from the State's surveillance program that suggest 1) soil is not likely to be the main source of exposure for most children analyzed, and 2) there is no clear difference between the elevations in blood lead for reported cases located within and outside of the boundaries of the VB/I70 site.

17. Page 79. List of health team members. Please verify the spelling of Margaret Schonbeck's name and correct the name of the agency to Colorado Department of Public Health and Environment.

18. Page 124. Appendix H. ATSDR's quantitative approach for estimating arsenic doses in children. The PHA assumes a bioavailability factor for arsenic in soil that is *"...estimated to range from 40 to 60%..."*. We suggest ATSDR provide a brief explanation of the basis of using a bioavailability factor (upper range) that differs from that determined in EPA's animal study.

19. Page 124. Table H-1. It may be confusing to the reader to note a dose estimate that is greater for a one-time exposure than the dose estimate for a multiple-time exposure. If it is accurate, we suggest the table contain a footnote that explains that these values are not meant to be compared across exposure frequency, but with toxicity values that differ, depending on the length of exposure. Alternately, the doses for different exposure frequencies could be presented in separate tables.

**References:**

EnviroGroup. 2001. Draft Technical Memorandum, Draft Facility Conceptual Model Omaha & Grant Smelter Location, On-Facility Soils, Operable Unit 2. ASARCO Incorporated, Vasquez Boulevard/Interstate 70 Site, Denver, Colorado. EnviroGroup Limited, Englewood, CO, December 7.

EPA. 2001. Baseline human health risk assessment, Vasquez Boulevard and I-70 Superfund Site. U.S. Environmental Protection Agency, Region VIII, Denver, CO. August.

MFG. 2001. Feasibility study report for Operable Unit 1, Vasquez Boulevard/Interstate 70 Superfund Site, Denver, Colorado. MFG, Inc., Boulder, CO. October 31.

Thank you for this opportunity to comment. If you have any questions, please contact Celia VanDerLoop at 720 865-5459, or me at 720 865-5443.

Sincerely,

Gene C. Hook
Environmental Protection Division

cc: VB/I70 Working Group